USB KVM SWITCH

8 ports / 16 ports

19” RACK MOUNTABLE

USER’S MANUAL

Rev 1.0

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1. Product introduction:

This USB KVM (Keyboard, Video and Mouse) Switch allows multiple computers (PCs or servers) controlled by one set of keyboard, monitor and mouse. It ensures easy switch by front panel button, Hot-keys or the friendly On Screen Display (OSD) menu with connection to much more computers. Not only naming for each computer can be done for easy identification, it also protects access by passwords. Additionally with the Auto Scan function it helps you managing all connecting systems at ease.

- Why use a USB KVM Switch?
  - — Saves money, time, spaces, and energy
  - — Works with not only 3-key MS mouse, but also over 3 keys MS mouse or other fully MS compatible mouse and MS multimedia USB keyboard or other fully MS compatible USB keyboard.

1. Saves money – With only one set of keyboard, monitor and mouse you can manage multiple systems. This greatly reduces the cost of implementing hardware for each computer and system administrator to handle the installation.
2. Saves time – Completely centralized control to save your time traveling between every computer.
3. Saves space – As only one set of keyboard, monitor and mouse is required to manage all computers, no need to worry about extra spaces for each system. You may utilize the space for future use.
4. Saves energy – As number of keyboard, monitor and mouse is greatly reduced, the electricity burden caused by each hardware is also reduced..
5. There are user defined key mice or Multimedia keyboard accompanied with software driver. This USB KVM switch could transparently transfer user defined keys of mice or of Multimedia keyboard to PC connected to the switch.

- Who should use the USB KVM?

Anyone who owns two or more computers, who wishes to reduce cost and control his system efficiently, USB KVM can be the best solution. Following list is some of the example where USB KVM can be implemented.

1. SOHO, small to medium offices
2. Organization's server management centre
3. Hardware/software experiment and system coalition
4. PC production quality test
5. Industrial rack application
6. Customer's service centre

ISP (Internet Service Provider),ASP (Application Service Provider, IDC(Internet Data Center).. etc. Global information system centre

2. Product Feature

- Software free, easy installation, fully plug-and-play design.
- Compatible with standard USB compliant computers, mice and multimedia keyboards (PC, MAC and SUN Micorsystems).
- Works with not only standard 3-key MS mouse, but also over 3 keys MS mouse or other fully MS compatible mouse
- Works with USB MS multimedia keyboard or other fully MS compatible USB Multimedia keyboard.
- Compatible using DOS, Win3.x, Win95/98/98SE/2000/ME/XP/Vista, WinNT, Netware, HP Unix, Linux…etc.
- Supports Hot plug-and-play (if computer and operation system also supports this feature)
- Supports high resolution video at 1920 x 1440, with DDC2 monitor compatibility.
- Auto Scan function scans for all connecting computer at intervals between 5~255 seconds.
- Use power adaptor to provide electricity.
- Front panel channel selection button and indication lights.
- By daisy-chaining it can connect up to 48 computers
- Separate naming for each computer for easy identification.
- Provide password protection and operation level restriction.
- 19" rack mount kit for easy rack installation
- Has CE, FCC and C-Tick Certifications
- Exclusive port for daisy-chain connection
- Firmware upgrade facility through RS-232 interface
- Dual power input- When primary power connection fails, secondary power automatically initiates to prevent unwanted device shutdown.

Technical Specifications

Model No.	One-Console 8 ports USB KVM Switch	One-Console 16 ports USB KVM Switch
PC Port	8	16
Console Port	1	
PC Port Combo Connector (All Female Types)	VGA HDDB 15pin (shared with VGA port, USB Keyboard port and USB Mouse port)	
Console Port Connectors	Local Console: USB type A receptacle for Keyboard, USB type A receptacle for Mouse, VGA HDDB 15pin for VGA monitor	
Daisy Chain Port Connectors	VGA HDDB 15pin, 2 X USB type A receptacle	
PC selection	On Screen Display (OSD) Menu, Hot Key, Push Button	
PC Port LED	16 (Power/Red color, On-line/Blue color)	32 (Power/Red color, On-line/Blue color)
Bank 7 segment LED	3	
On Screen Display Control	Yes	
Scan Intervals	5~255 Sec.	

Keyboard Emulation	USB	
Mouse Emulation	USB	
VGA Resolution	1920X1440/60Hz	
DDC version	DDC2	
Daisy Chain MAX Level	3 levels	
MAX PC Connection	40	48
Housing	Metal	
KVM Switch Power Adapter	DC 5V, 1A	
Operation Temperature	0~50℃	
Storage Temperature	-20 ~ 60℃	
Humidity	0~95%, Non-Condensing	
Size	19” Rack Mount	19” Rack Mount
Weight (g)	N/A	N/A
Dimension (mm)	(420)X(130)X(44)	(420)X(130)X(44)

System Requirements

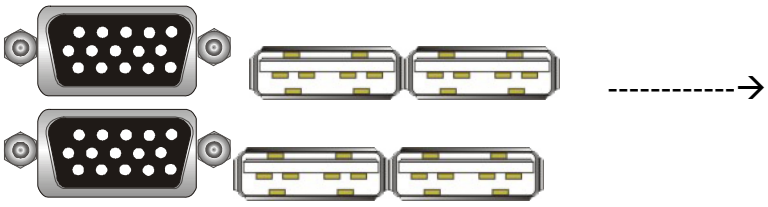
Model No.	One-Console 8 ports USB KVM Switch
Local Console side	One VGA Monitor One USB Keyboard One USB Mouse
Computer side	8 {HDDB 15 pin male to one HDDB 15-pin male and one USB type A plug 4-pin } cables

Model No.	One-Console 16 ports USB KVM Switch
Console side	One VGA Monitor One USB Keyboard One USB Mouse
Computer side	16 {HDDB 15 pin male to one HDDB 15-pin male and one USB type A plug 4-pin } cables

Cable Diagrams

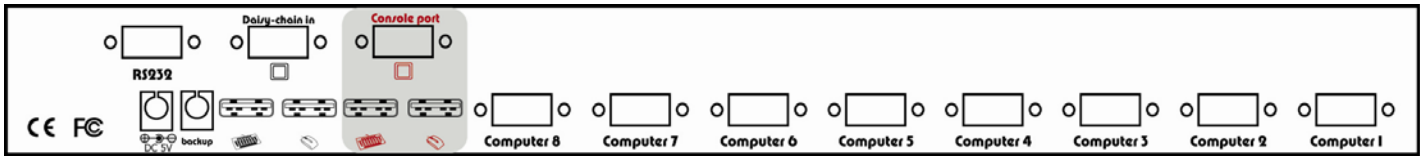
PC Port Combo Cable:
“HDDB15 pin Male” to “HDDB 15-pin Male” End and “USB type A plug” End

Daisy chain Cable:
HDDB15 pin Male to Male

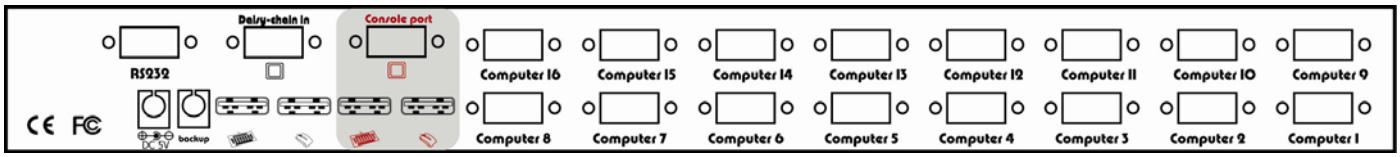


Product Details

One-console 8-port USB KVM Switch:



One-console 16-port USB KVM Switch:



4. Hardware Installation

Prior to installation please switch off all computer and peripherals. Following guide is using 8-port USB KVM as example. Please note 16-port USB KVM has similar hardware installation.

Step 1

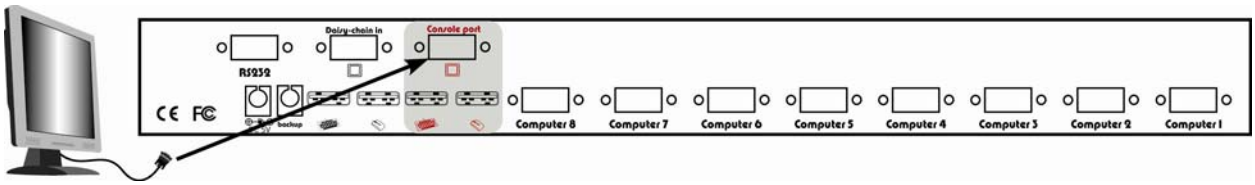
Please open the package carefully and take out all required accessories to prepare fluent installation. The size of device is 19". For installation on rack please install the rack-mount kit. Please measure the suitable distance between USB KVM and computer, keyboard, monitor and mouse before installation.

Step 2

Plug power adaptor into USB KVM and power socket. You will hear one beep and port-1 red LED lit

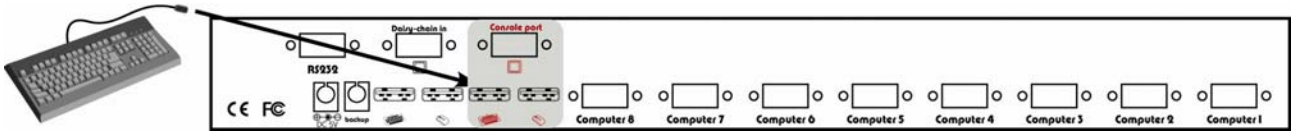
Step 3

Please connect HDDB 15-pin blue connector on monitor to console port on USB KVM as illustrated below:



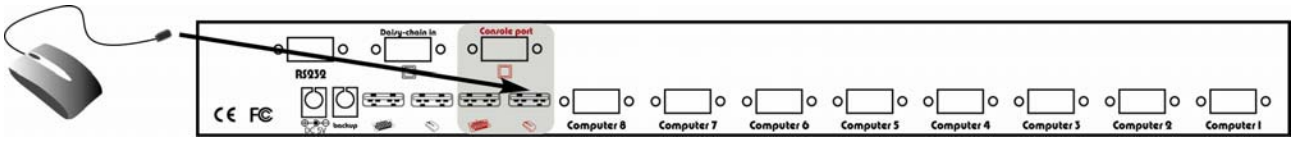
Step 4

Please connect USB type A plug of keyboard to console port on USB KVM as illustrated below:



Step 5

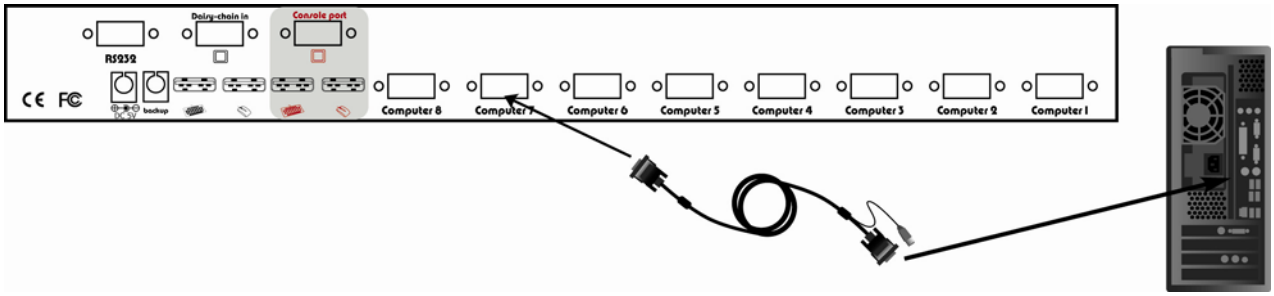
Please connect USB type plug of mouse to console port on USB KVM as illustrated below:



Step 6

Please use KVM cable to connect computers and USB KVM. Plug the end with only one HDDB 15-pin to USB KVM computer port, and the other end of the cable with HDDB 15-pin and USB type A plugs 4-pin to back of computer. Please use the above method to connect every computer to USB KVM.

★ NOTE：One end of this cable only has one HDDB 15-pin connector, the other end has TWO connectors- one HDDB 15-pin and one USB type A plug 4-pin.



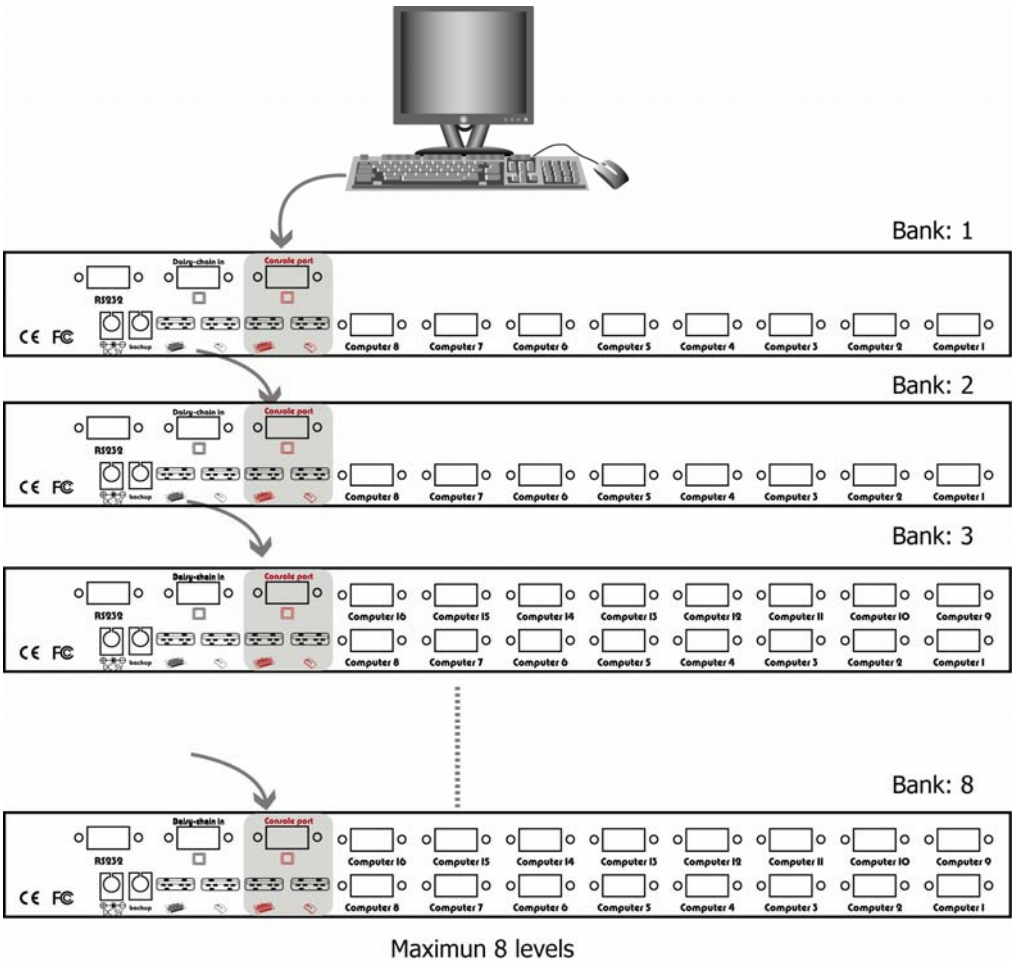
Step 7

When above cable installation is complete, please re-check all cable is securely fastened at correct socket. Recommend attach label for identification.

Step 8 Daisy Chain (optional)

If daisy chaining is needed please use the daisy chain cable included with package.

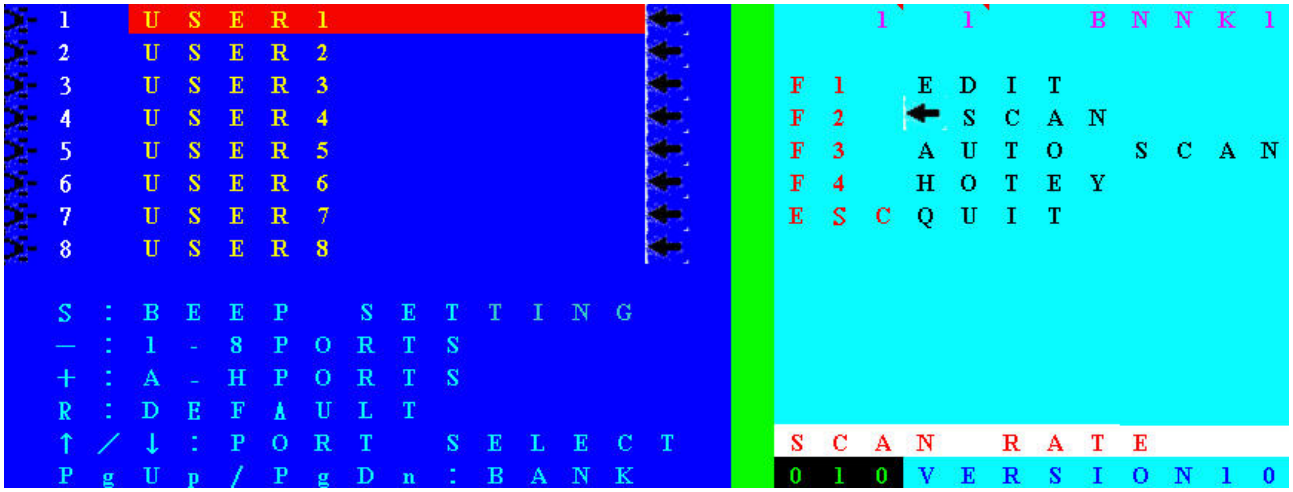
★ NOTE: Please do not use other type of cable for daisy chaining USB KVMs.



5. Operation & Usage

5.1 To switch port, you may enter OSD menu to select port, or, use Hot-Key to perform switching. To bring up OSD menu, please press "**Scroll Lock**" thrice to activate OSD Main Menu as illustrated below**<fig.1>.**

OSD Main Menu



<fig.1**>**

5.3 OSD Main Screen Headings

	indicates the computer is powered on at selected port
USER1~8	Port name of corresponding port number. USER 1~8 illustrated as factory default setting.
	indicates the PC port is set for Auto Scn Mode. At factory default all PC port is active for Auto Scan.
S	Every time switching is made USB KVM beeps for notification. Please press Scroll Lock twice followed by “S” to turn beeper on or off
_	to select 1~8 computer Ports (1~8 PC Port)
+	to select A~H computer port (9~16 PC Port)
R	to set factory default.
↑	Select computer at previous port
↓	Select computer at next port
PgUp	Select previous bank
PgDn	Select next bank
1 1	Left hand side ”1” indicates current active port, right hand side “1” indicates current active bank.
F1	Edit computer name
F2	Select scan port
F3	Auto scan mode
F4	Hot key setting
ESC	Exit OSD

SCAN RATE	Scan rate
VERSION	Firmware version

5.3.1 Use right hand side of OSD commands for adjust settings

Function keys: **F1, F2, F3, F4, ESC and → left arrow key**

- First row on right hand window – "1 1 Bank1" : indicates currently USB KVM active at Bank 1, computer port 1.
- SCAN RATE set at 10 second
- Firmware version now at version 1.0

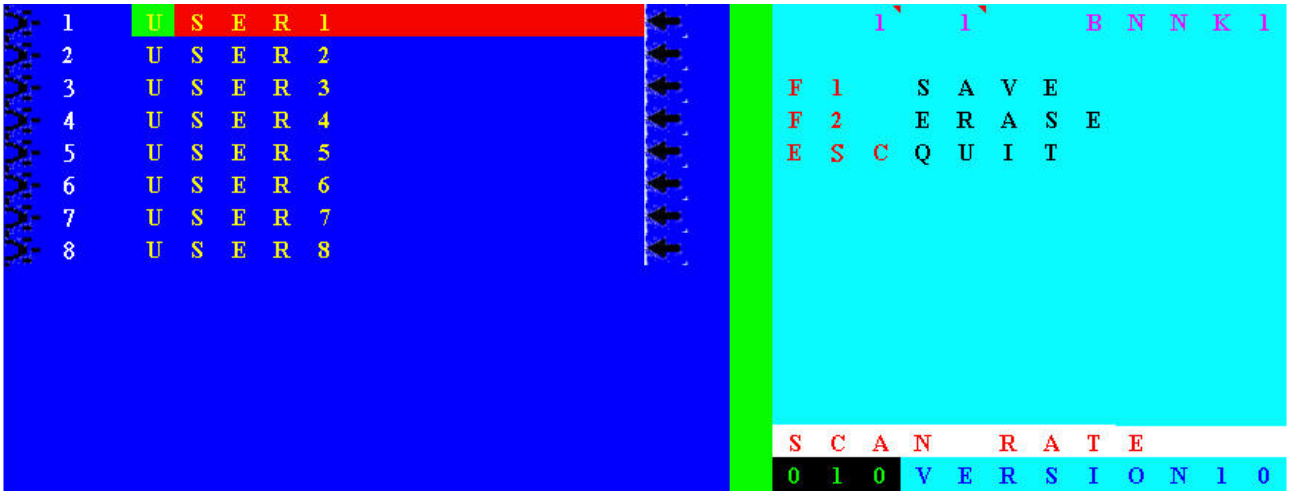
F1 Edit computer name (EDIT)

On the OSD menu, please press F1 to edit PC port name as illustrated below <fig.2>.

Now please use the secondary function key to **F1(SAVE), F2(ERASE), or ESC(QUIT)**

- Edit the desirable name at cursor position, maximum 12 characters.
- F1- Save port name settings and brings back to OSD main menu
- F2- Erase all texts. To erase individual character, please use Backspace (←)
- ESC to exit EDIT menu

Edit PC port name menu


1 USER 1
2 USER 2
3 USER 3
4 USER 4
5 USER 5
6 USER 6
7 USER 7
8 USER 8
1 1 BNNK1
F1 SAVE
F2 ERASE
ESC QUIT
SCAN RATE
010 VERSION10

<fig.2>

F2- SELECT SCAN PORT

Press F3 at OSD main menu to select Auto Scan active port. If a port is selected for Auto Scan, a ← icon appears, press F3 again, the ← icon will disappear.

F3- AUTO SCAN

Press F4 at OSD main menu to enter Auto Scan function menu as illustrated below <fig.3>. The secondary function keys are F1, F2 and F3

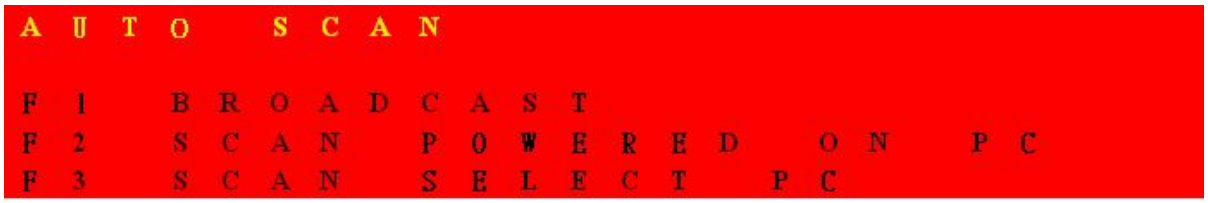
- F1- To start complete scanning, please press F1 (BROADCAST). All ports will be scanned regardless whether the port is connected with active computer. The scanning process will be stopped when ESC is pressed. As scan terminates, KVM switch maintains at last scanned PC port OSD.

- F2- To start scanning powered on PC only, please press F2 (POWERED ON PC). To stop scanning, please press ESC button. As scan terminates, KVM switch maintains at last scanned PC port OSD.

- F3- To scan selected PC, please press F3 (SCAN SELECT PC) to commence scanning. To stop scanning, please press ESC button. As scan terminates, KVM switch maintains at last scanned PC port OSD.

- ESC- Press ESC to Exit the Auto Scan menu.

AUTO SCAN



<fig. 3>

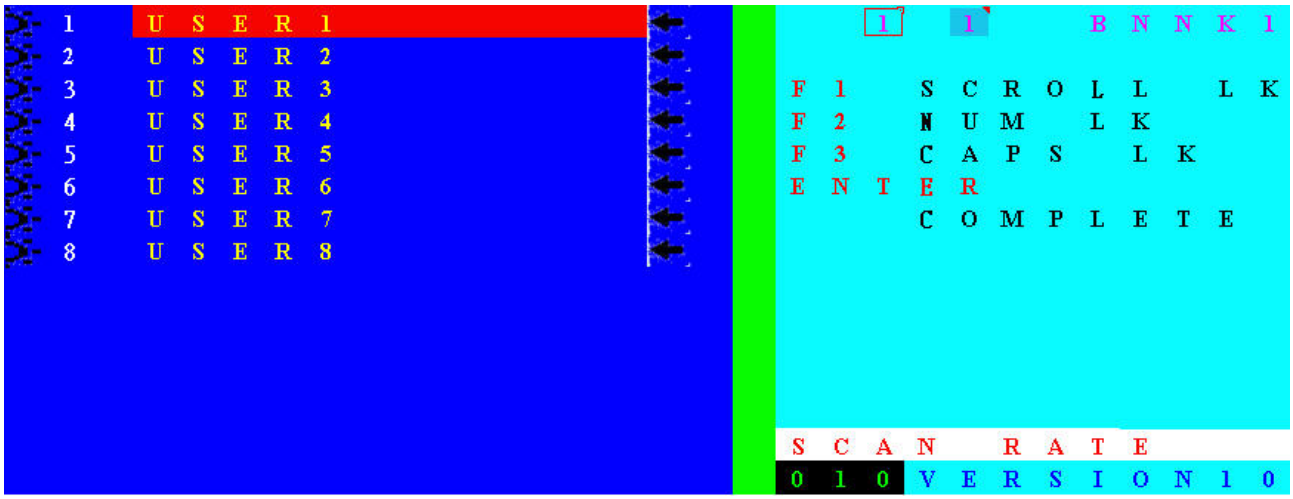
F4- HOT-KEY

At OSD main menu, please press F5 to enter HOT-KEY setting menu <fig.4>. In the HOT KEY setting menu, secondary selection keys are F1, F2, F3, ENTER.

- Press **F1** to select Scroll Lock as Hot-key
- Press **F2** to select Num Lock as Hot-key

- Press **F3** to select Caps Lock as Hot-key
- Press **ENTER** to save setting and exit the Hot-key setting menu

Hot Key



<fig.4>

OSD RATE / SCAN RATE SETTING

To set scan rate please press ⟶ button to enter Scan Rate/OSD Rate setting menu as illustrated below <fig.5>. The secondary menu functions are F1 and ENTER button

SCAN RATE SETTING

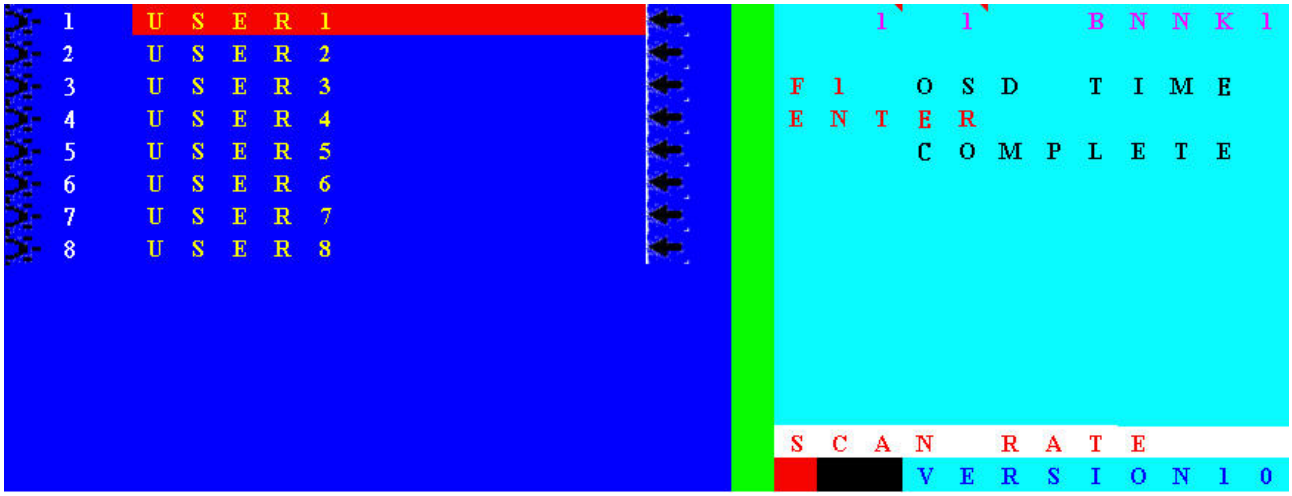
. Please note that scan rate is set 10 seconds at factory default. Please enter desirable time interval (005~255 seconds) in the cursor and press ENTER to confirm setting.

OSD RATE SETTING

- Press F1 to enter OSD TIME setting screen <fig.6>. Please enter OSD RATE at bottom right corner (005~255 seconds).
- Press ENTER to complete setting (005~255 seconds) and returns to OSD main menu.
- Please press ESC to clear OSD display if OSD Time is not set. When OSD Time is set, please wait until setting time terminates. Note that ESC button OSD cancellation cannot be used when OSD Time is set.

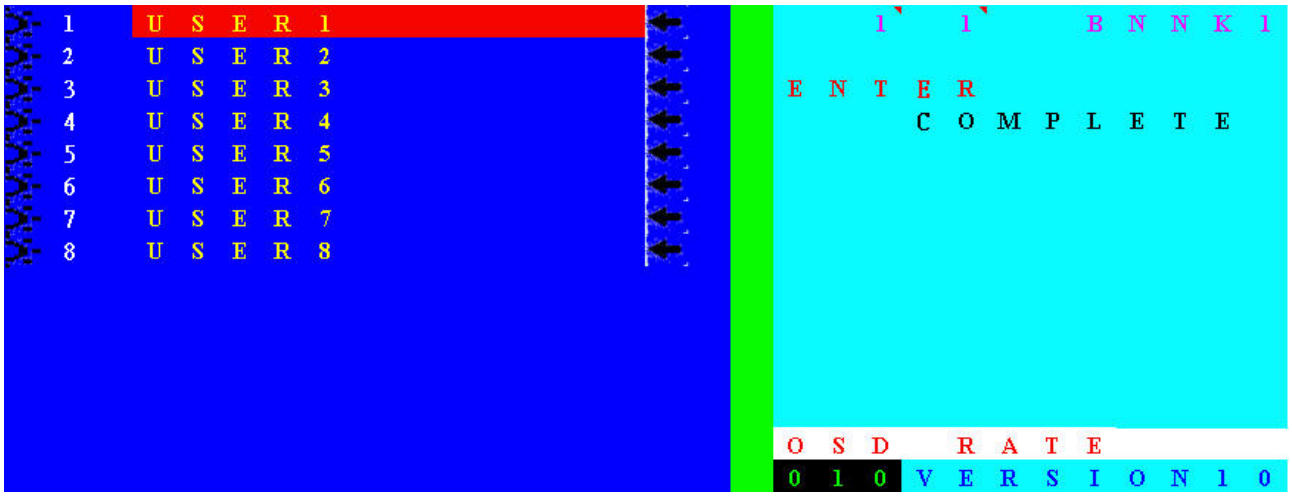
NOTE: When entering OSD RATE and SCAN RATE please enter complete three digits. For example, to enter 5 seconds, please input 005; to enter 10 seconds, please input 010.

Main OSD scan rate setting menu



<fig.5>

OSD time setting menu



<fig.6>

6. Upgrade firmware

This USB KVM Switch has built in ability to upgrade firmware. Whenever upgrading is desirable, the device can be easily upgraded without purchasing new hardware to suit the new environment.

A CD ROM software package is included with the package. Please execute BSETUP.EXE to obtain the new firmware file. Upgrading is done through RS-232 connection to USB KVM to complete the process.

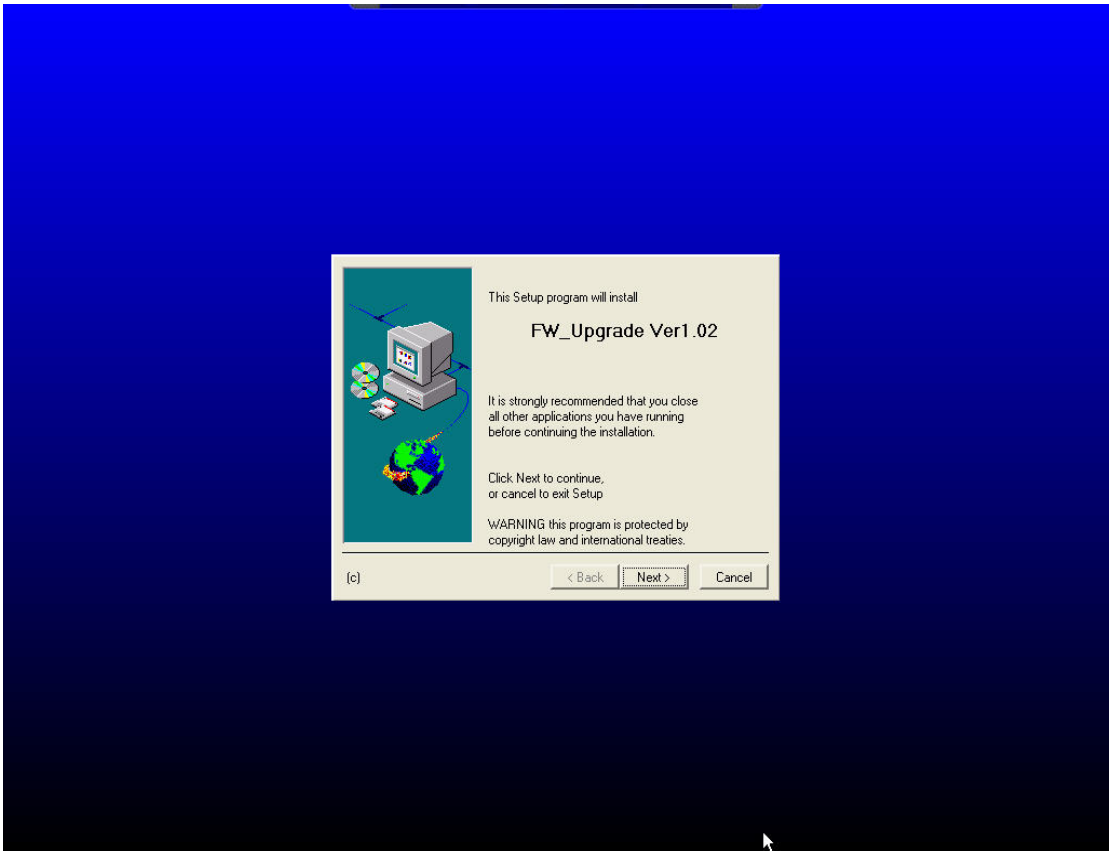
- ◆ This firmware updates OSD functions

Updating procedure:

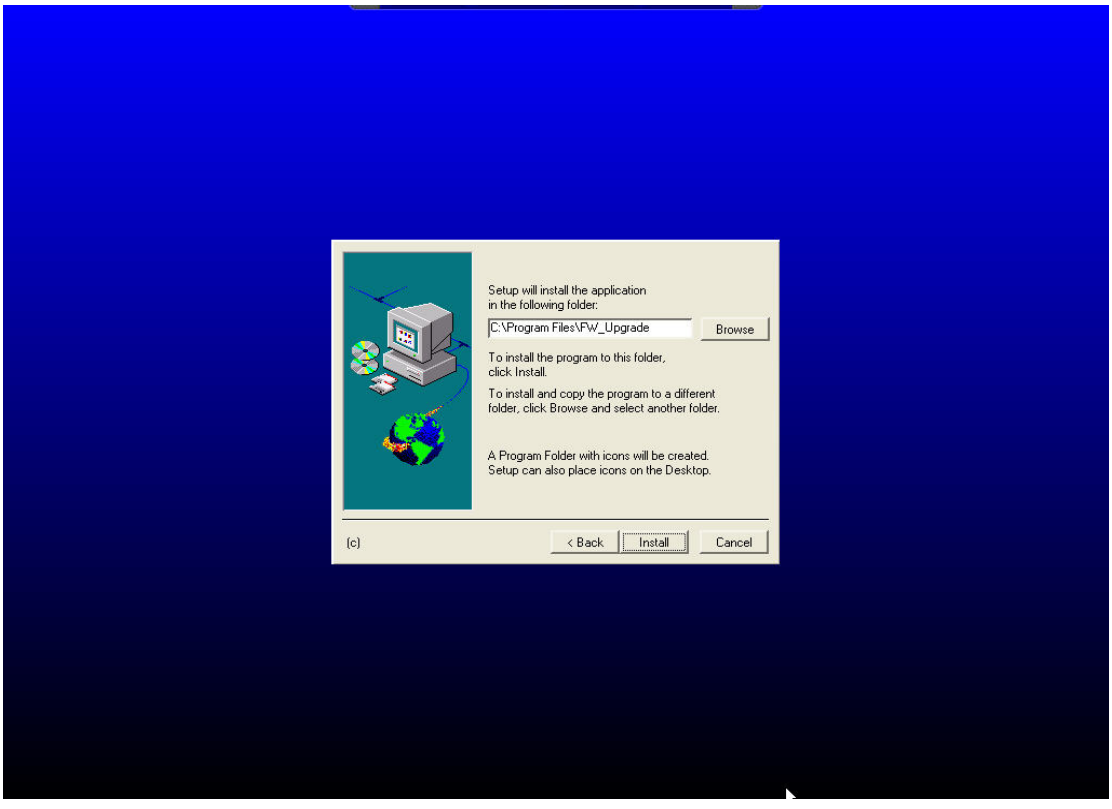
6.1 Please connect the RS-232 cable included with the USB KVM package

connect with a computer with BSETUP.EXE file and USB KVM.

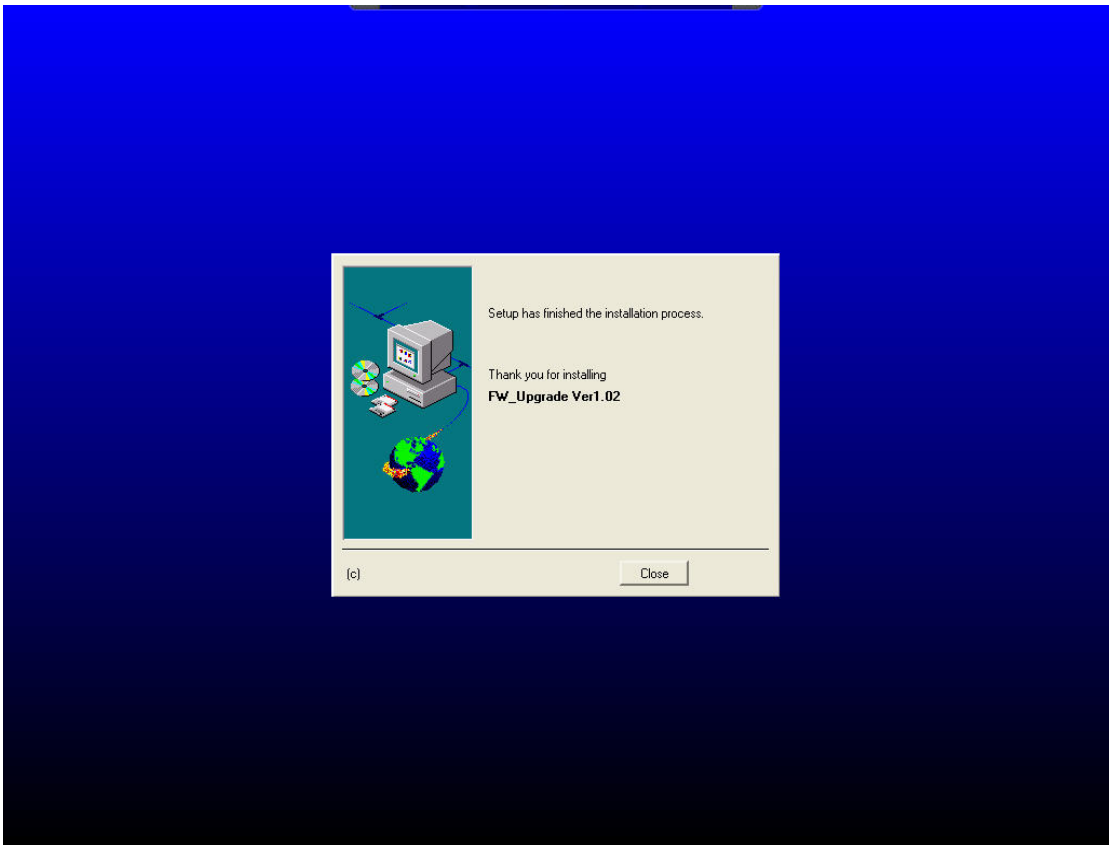
6.2 Power on all connecting devices and execute BSETUP.EXE file. When running BSETUP.EXE, you will see the following image<fig.7><fig.8><fig.9>:


This Setup program will install
FW_Upgrade Ver1.02
It is strongly recommended that you close all other applications you have running before continuing the installation.
Click Next to continue, or cancel to exit Setup
WARNING this program is protected by copyright law and international treaties.
(c)
< Back
Next >
Cancel

<fig.7>

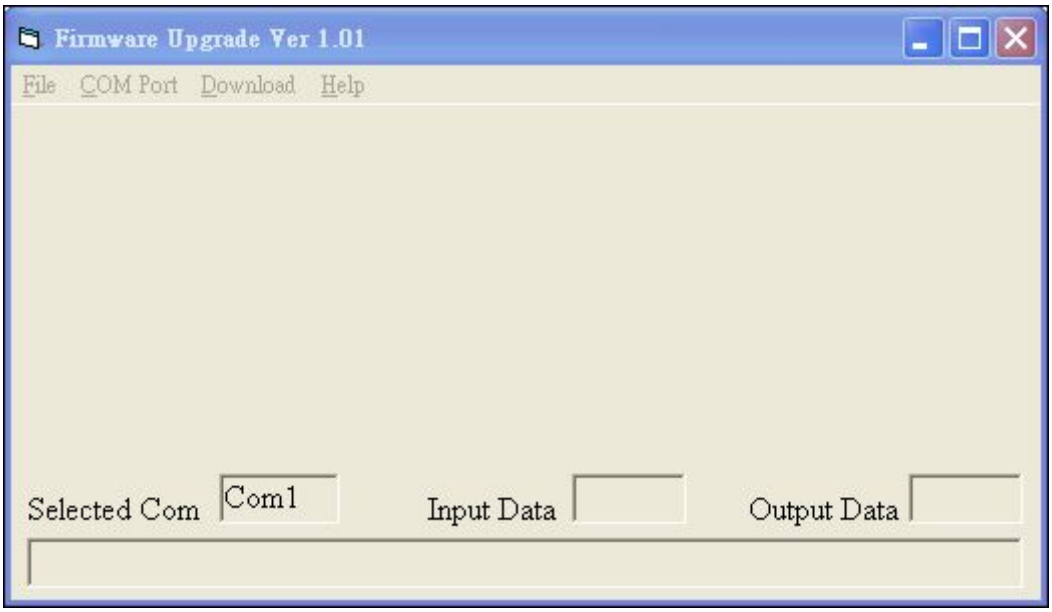

Setup will install the application in the following folder:
C:\Program Files\FW_Upgrade
Browse
To install the program to this folder, click Install.
To install and copy the program to a different folder, click Browse and select another folder.
A Program Folder with icons will be created. Setup can also place icons on the Desktop.
(c)
< Back
Install
Cancel

<fig.8>



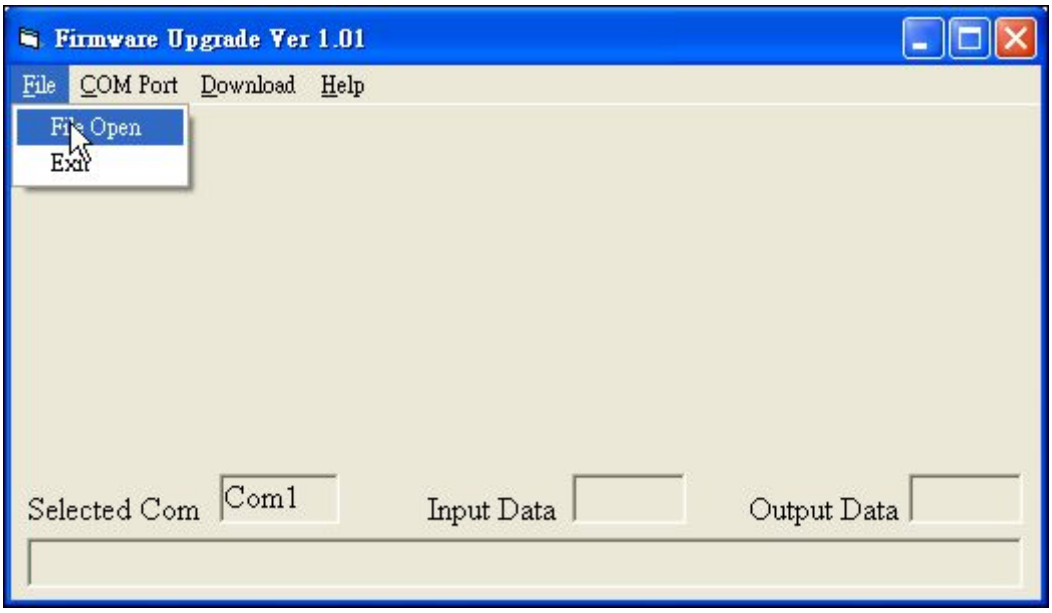
<fig.9>

6.3 Please run FW upgrade program as illustrate below<fig.10>



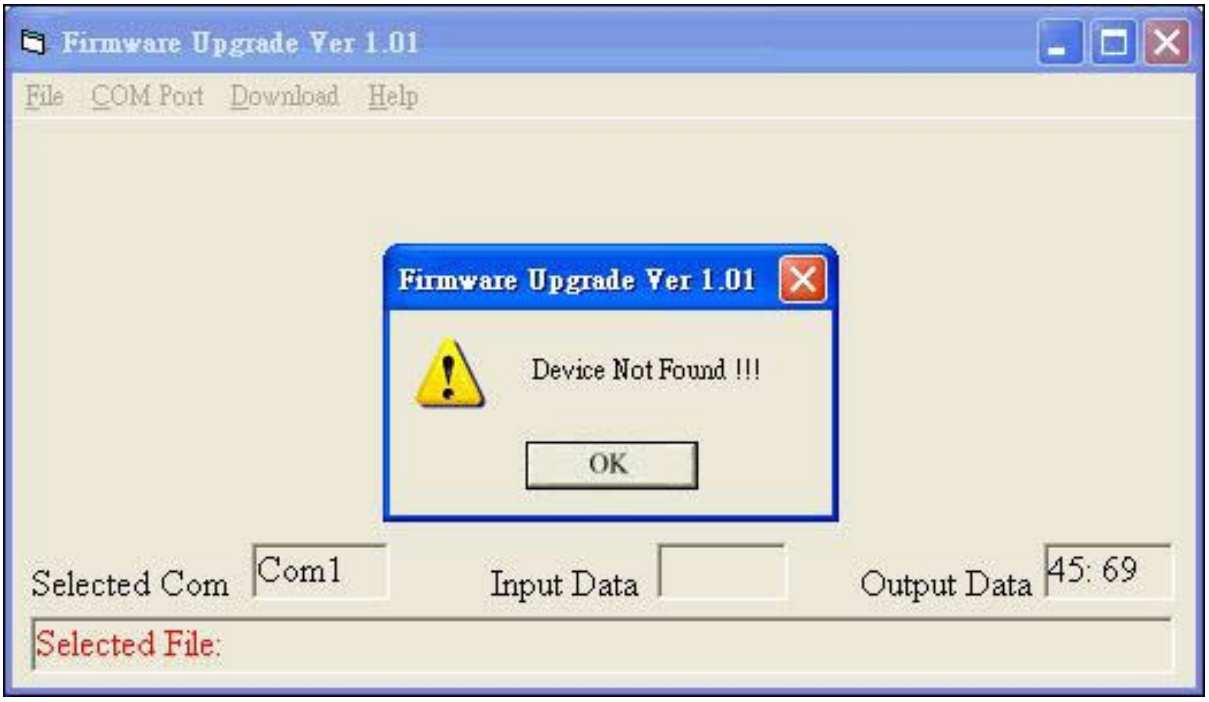
<fig.10>

6.4 Download new upgrade file as illustrate below<fig.11>



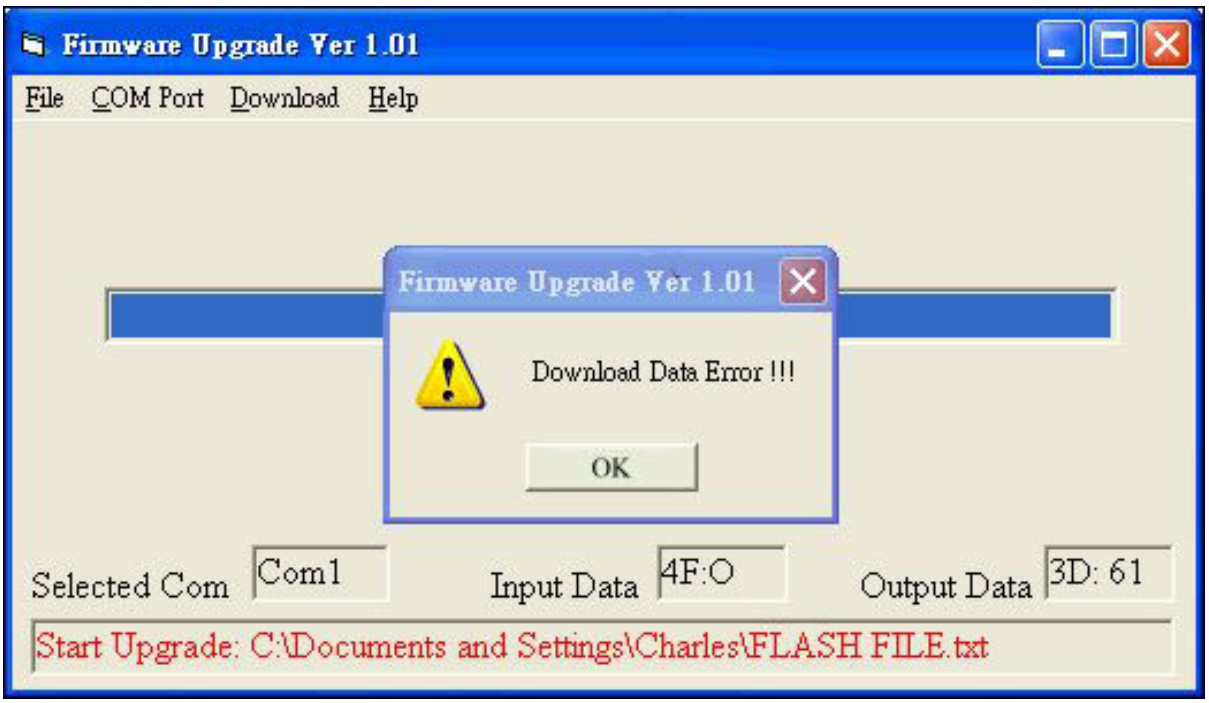
<fig.11>

6.5 KVM not found as illustrate below<fig.12>



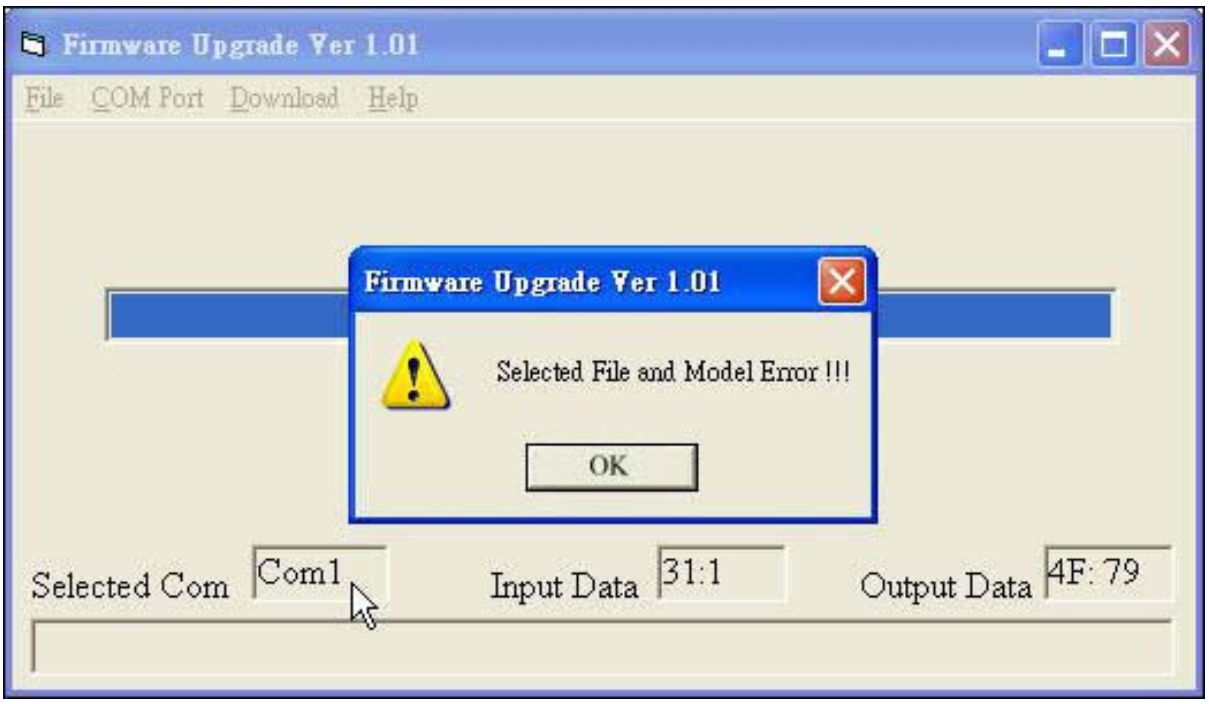
<fig.12>

6.6 If RS-232 Port Fail as illustrate below <fig.13>



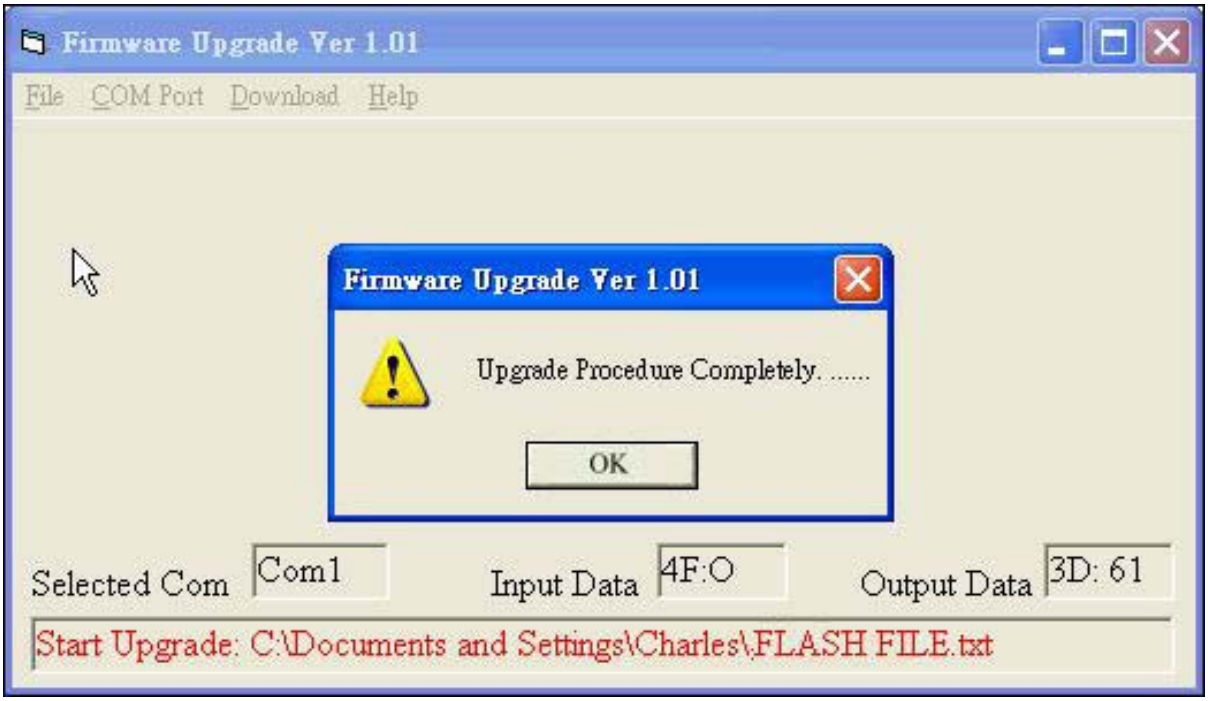
<fig.13>

6.7 The models chosen are not accorded with upgrade file as illustrate below <fig.14>



<fig.14>

6.8 Firmware upgrade successful as illustrate below <fig.15>


Firmware Upgrade Ver 1.01
File
COM Port
Download
Help
Firmware Upgrade Ver 1.01
Upgrade Procedure Completely. .....
OK
Selected Com
Com1
Input Data
4F:O
Output Data
3D: 61
Start Upgrade: C:\Documents and Settings\Charles\FLASH FILE.txt

<fig.15>

Troubleshooting

The following guide is intended to assist users to solve possible issues from operating or installing USB KVM.

i. After hardware installation, please affix label to all cable to assist in future maintenance.
ii. The maximum KVM cable distance is approximately 5 meters when high quality cable is used.
iii. The USB KVM is implemented with dual power design to collaborate with dual powered server system. The power input with “back up” label is optional. If second power source is required please contact your distributor to purchase additional power adaptor.
iv. USB KVM uses standard polarity power adaptors (tip negative/barrel positive)
v. As computer booting up please do not perform switching (push button or hot-key operation) to prevent unforeseen situation.
vi. If keyboard or mouse is not operating, please try to connect keyboard or mouse directly to the computer without USB KVM. Please check if keyboard or mouse is working properly.

8. Optional Accessories

USB KVM CAT5 Extender

The maximum distance between USB KVM and computers is 5 meters. To extend beyond this distance please use a USB KVM Cat5 Extender.

- All other company or product names mentioned herein are trademarks or registered trademarks of their respective companies.
- Specifications are subject to change without notice.